



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,512	01/22/2007	Ian Harrison	60838.000570	3006
21967 7590 05/11/2010 HUNTON & WILLIAMS LLP INTELLECTUAL PROPERTY DEPARTMENT 1900 K STREET, N.W. SUITE 1200 WASHINGTON, DC 20006-1109				
EXAMINER ALAWADI, SARAH				
ART UNIT 1619		PAPER NUMBER		
MAIL DATE 05/11/2010		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/579,512

**Applicant(s)**

HARRISON ET AL.

**Examiner**

SARAH AL-AWADI

**Art Unit**

1619

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01/28/2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 76-98 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 76-98 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/CD)  
Paper No(s)/Mail Date 01/29/2010
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

#### **DETAILED ACTION**

Receipt is acknowledged of Applicants remarks/arguments filed on 01/28/2010.

The Examiner acknowledges the following:

Claims 46-75 are cancelled.

Claims 76-98 are newly added to further clarify the claimed invention.

#### **WITHDRAWN OBJECTIONS/REJECTIONS**

##### Objections

Claim 63 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. Applicants amendments to the claims render the issue a moot point, therefore said objection is hereby **withdrawn**.

Rejection under 35 U.S.C. 112 1st Paragraph

Claims 67-69 (currently claims 95-97) are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. In light of Applicants remarks said rejection is hereby **withdrawn**.

Rejections under 35 U.S.C. 112 2<sup>nd</sup> Paragraph

Claims 56-57, 60, 62, and 63 were rejected under 112 2<sup>nd</sup> paragraph as being indefinite for reciting nested ranges. Applicants have cancelled the claims and added new claims which do not recite nested ranges therefore said rejection is hereby **withdrawn**.

Claims 46 and 63 are rejected as lacking antecedent basis. Applicants have cancelled the claims therefore said rejection is hereby **withdrawn**.

Claim 68 is rejected as being indefinite. Applicants have cancelled claim 68 and deleted non aqueous from the claim therefore said rejection is hereby withdrawn.

Claim 46 is rejected as being indefinite. The Examiner has cancelled claim 46 thereby said rejection is hereby **withdrawn**.

Rejection under 35 U.S.C. 102(b)

Claims 46-50,53-55, 58-59 and 65-66 are rejected under 35 U.S.C. 102(b) as being anticipated by Dederen et al. US 2002/0065328 as evidenced by Sharma et al. Food Promotion Chronicle, and Wikipedia (Dimithicione). Applicants have cancelled said claims therefore said rejection is **withdrawn**.

Rejection under 35 U.S.C. 103(a)

Claims 56, 57, 60, 61-64 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dederen et al. US 2002/ 0065328 with respect to claims 46 and 58 as presented above. Applicants have cancelled said claims therefor said rejection is hereby **withdrawn**.

Claims 68-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dederen et al., United States Patent Application 2002/0065328 with respect to claim 46 as presented above, further in view of Bavouzet et al. United States Patent Application 2005/0053569. Applicants have cancelled said claims therefore said rejection is hereby **withdrawn**.

**NEW REJECTIONS**

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 76-80 and 81-83, 86-87, and 93-94 are rejected under 35 U.S.C. 102(b) as being anticipated by Dederen et al, US 2002/ 0065328 as evidenced by Sharma et al., Food Promotion Chronicle, and Wikipedia (Dimethicone). (See 892)

Regarding claim 76, Dederen et al. teach two types of multiple emulsions; a water in oil in water, and an oil in water in oil emulsion. Dederen et al. teach examples of multiple emulsions that have a liquid phase and an aqueous phase (paragraph 0075) with a polysaccharide stabilizer dispersed in water such as xanthan and polyglucomannan polysaccharides. (paragraph 0012 and 0078) Dederen et al. teaches that the polysaccharides are made of glucose and glucuronic acid monomer units, and do not have polyorganosiloxane groups. (paragraph 010) Furthermore Dederen et al. teaches that the emulsion stabilizer components can be blended to produce a dry formulation (solid form) that can be dispersed in water. (paragraph 0086) With regard to the limitation(s) recited in claim 46 which state that the polysaccharides have a mean degree of polymerization (DP) that is at least 1.5, preferably 20, and most particularly at least 100, and the Brookfield viscosity at 25 degrees Celsius as a solution at 1% by mass in water is less than 20,000 mPa.s and optionally ranging from 1 to 4500 mPa.s.; until some material difference(s) in the properties of the composition are demonstrated, said limitation is considered by the Examiner to be directed toward the multiple emulsion system which is instantly claimed. (see table in paragraph 0046 for components)

Regarding claim 77-80, Dederen et al. teaches that the oil phase can include that of silicone oils such as dimethicone. Dimethicone is a type of branched organosilicon material that is an example of silicon oil. (paragraph 0038) Regarding claim 80, Dederen et al. teaches

dimethicone as the oil used. (discussed above) Dimethicone is an example of a nonionic polyorganosiloxane. (see wikipedia website of dimethicone)

Claim 81 recites the emulsion as claimed in claim 81 wherein said polysaccharide (PSA) or its skeleton is a linear or branched, nonionic or ionic homopolysaccharide or heteropolysaccharide, having identical or different glycosyl units linked via  $\beta(1-4)$  bonds, and optionally  $\beta(1-3)$  and/or  $\beta(1-6)$  bonds. Dederen et al. teaches an example of a polysaccharide such as xanthan gum which is an anionic polysaccharide having glycosyl units consisting of two D-glucopyranosyl units, two D-mannopyranosyl units and one D-glucopyranosyluronic acid. As evidenced by Sharma et al. the polymer backbone of xanthan is made up of  $\beta(1-4)$  linked B-D-glucopyranosyl units. (Sharma et al on 892 form, figure 1)

Claim 82 recites the emulsion of claim 81 wherein the hydroxyl functions of the glycosyl units are substituted and/or modified with nonionic or ionic groups other than lipophilic polyorganosiloxane groups. Dederen et al. teaches an embodiment of xanthan gum as the polysaccharide. Sharma et al. discloses the structure of xanthan gum and it is shown that xanthan gum has nonionic glycosyl units that are substituted and/or modified by groups other than lipophilic polyorganosiloxane groups. (see Sharma et al. on 892 form, figure 1)

Claim 83 recites the emulsion as claimed in claim 81 wherein said polysaccharide is selected from a group which can include that of depolymerized galactomannans. Dederen et al. teaches that other than xanthan gum, a polysaccharide such as guar gum can be used. (paragraph 0015) Guar gum is a single polysaccharide and Dederen teaches an embodiment of guar gum used alone, not polymerized with other polysaccharides.

Regarding claims 86-87 Dederen et al. teaches amphiphilic non-ionic polymers such as xanthan gum.

Regarding claim 93, Dederen et al. teaches multiple emulsions such as oil in water in oil, and water in oil in water emulsions. (paragraph 0075) Thus Dederen et al. teaches where the outer phase is aqueous such as water.

Claim 94 recites the emulsion of claim 76 wherein the outer phase is an alcoholic or aqueous-alcoholic phase, optionally comprising isopropanol or ethanol or mixtures. Dederen et al. teaches that the aqueous phase (water phase) can include fatty alcohols. (paragraph 0042) Thus, Dederen et al. teaches an embodiment with an aqueous alcohol phase.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.



4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 84-85 88 89-92 and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dederen et al. US 2002/ 0065328 with respect to claims 76 and 86 as presented above.

Regarding claims 84 and 76, Dederen et al. teaches that the oil phase (hydrophobic phase) can contain 30% by weight, and that water can be present up to a 100%. (see paragraph 0046 ) The ranges disclosed in Dederen overlap the ranges claimed for the instant application as it is possible to form ratios of 62/30 of aqueous phase (water) to hydrophobic (oil) phase. (see the ranges for the preferred non-alkoxide emulsifiers in the table shown in paragraph 0046) Furthermore, absent evidence of criticality , since the values of each parameter with respect to the claimed composition are adjustable, it would have been prima facie obvious for a person having ordinary skill in the art to routinely optimize the amount of each parameter in the composition. MPEP 2144.05 recites “where the general conditions of a claim are disclosed in

the prior art, it is not inventive to discover the optimum or workable ranges by routine optimization.”

Regarding claim 85, Dederen et al. teaches that the oil phase (hydrophobic phase) can contain 30% by weight. (paragraph 0046) Dederen also teaches that the polysaccharide combinations (stabilizer) can be present at a percent range from 0.25 to 7% weight. (paragraph 0046) Thus Dederen et al. teaches ranges that overlap with the instant invention. Furthermore, absent evidence of criticality, since the values of each parameter with respect to the claimed composition are adjustable, it would have been prima facie obvious for a person having ordinary skill in the art to routinely optimize the amount of each parameter in the composition and adjust the amount of each parameter in the composition. MPEP 2144.05 recites “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine optimization.”

Regarding claims 86 and 88, Dederen et al. teaches amphiphilic non-ionic polymers such as xanthan gum. Dederen further teaches that these polymers can be present in the composition in an amount of 3 to 8 parts by weight. (see paragraph 0088) Furthermore, it would have been prima facie obvious for a person having ordinary skill in the art to routinely optimize the amount of each parameter in the composition and adjust the weight ratio of each parameter in the composition. MPEP 2144.05 recites “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine optimization.”

Claim 89 recites the emulsion as claimed in claim 86 wherein the hydrophilic polymer is made of or comprises at least one water-soluble or water-dispersible polysaccharide. (PSA) As

discussed above xanthan is a water soluble polysaccharide which is an example of a hydrophilic polymer that Dederen uses for the emulsions. (see above)

Regarding claim 90, Dederen teaches water in oil in water emulsions as discussed above, and oil in water in oil emulsions. Thus Dederen teaches a combination having an inverse emulsion of continuous liquid, an aqueous dispersed phase, water soluble or dispersible stabilizer, and an aqueous or water-miscible outer phase which is dispersed with the inner emulsion by means of at least one dispersant and/or stabilizer. Dederen et al. teaches that the oil phase (hydrophobic phase) can contain 30% by weight. (paragraph 0046) Dederen also teaches that the polysaccharide combinations (stabilizer) can be present at a percent range from 0.25% to 7% weight. (paragraph 0046) Thus Dederen et al. teaches ranges that overlap with the instant invention. Furthermore, absent evidence of criticality, since the values of each parameter with respect to the claimed composition are adjustable, it would have been prima facie obvious for a person having ordinary skill in the art to routinely optimize the amount of each parameter in the composition and adjust the ratio of each parameter in the composition. MPEP 2144.045 recites "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine optimization."

Regarding claim 91, as shown above, Dederen teaches that the emulsion can contain a solid matrix by drying. Furthermore, Dederen et al. teaches that the oil phase (hydrophobic phase) can contain 30% by weight. (paragraph 0046) Dederen also teaches that the polysaccharide combinations (stabilizer) can be present at a percent range from 0.25 to 7% weight. (paragraph 0046) Thus Dederen et al. teaches ranges that overlap with the instant invention. Furthermore, absent evidence of criticality, since the values of each parameter with

respect to the claimed composition are adjustable, it would have been prima facie obvious for a person having ordinary skill in the art to routinely optimize the amount of each parameter in the composition. MPEP 2144.04 recites “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine optimization

Regarding claim 92, the table in paragraph 0046 demonstrates that the stabilizer can be present in the composition in a range from 0.25 to 7 wt % which overlaps the instant claimed range. Furthermore, absent evidence of criticality, since the values of each parameter with respect to the claimed composition are adjustable, it would have been prima facie obvious for a person having ordinary skill in the art to routinely optimize the amount of each parameter in the composition and adjust the weight percent of each parameter in the composition. MPEP 2144.05 recites “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine optimization.

Regarding claim 98, Dederen et al. teaches the use of emollients such as coconut oil which can be solid at ambient temperature. Coconut oil is made up of one ethyleneically unsaturated nonionic monomer. (paragraph 0037-38) Claim 72 also recites that the solid matrix can be made of materials such as water-dispersible saccharides or fatty acids. Dederen et al. teaches that the emulsifier and emulsion stabilizer components can be combined to provide a dry formulation that can be dispersed in water. An example of the stabilizer can include that of xanthan gum (a saccharide). (stated supra) The emulsifier can include fatty acid esters. (paragraph 0020) Thus a solid (dry) matrix can be made from the embodiments presented in Dederen et al.

It would have been *prima facie* obvious at the time the invention was made to create an emulsion identical to the instantly recited claims, because Dederen teaches and suggests the claimed embodiments, and it would have been within the purview of the skilled artisan to try creating the emulsions set forth in Dederen. One would have been motivated to do so because Dederen et al. teaches that such emulsifying systems provide enhanced stability even at low emulsifier levels which allows for flexibility in the type of product made. For example the emulsifier systems allows for the creation of low viscosity compositions such as thin lotions or thick creams and gels. (abstract)

Claims 95-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dederen et al., United States Patent Application 2002/0065328 with respect to claim 76 as presented above, further in view of Bavouzet et al. United States Patent Application 2005/0053569.

Dederen et al. does not expressly teach the hydrophobic phase is a care or detergent agent for articles made of textile fibers, and the outer phase is an aqueous liquid rinsing agent (claim 95 and 97) or a non aqueous liquid detergent formulation (claim 96).

Bavouzet et al. teaches multiple emulsions for the use of detergents. (paragraph 008)The outer phase can consist of a surfactant and stabilizing polymer. (paragraph 0403) Bavouzet also teaches that the outer phase can contain sodium dodecyl sulfate. (paragraph 0464-0465)The emulsions of the invention represent detergent formulations for washing textile fibers or as compositions for the care of skin and hair. (paragraph 0426 and 0217)

Regarding claim 96; absent evidence to the contrary the Examiner interprets detergents such as SDS described above to be both non aqueous and aqueous as it is well known in the art that detergents have amphiphilic properties. Bavouzet et al. teaches that the multiple emulsions can have in inner organic phase being dispersed in the aqueous phase or an inner aqueous phase dispersed in the organic phase then dispersed in the aqueous phase. Furthermore, Bavouzet et al. teaches that the active materials can be in the form of a solid dispersed phase. (paragraph 0159)

It would have been obvious to the skilled artisan to use a detergent or care articles with both aqueous and non aqueous outer phases because Bavouzet et al. teaches multiple detergent or care emulsions wherein the outer phase is aqueous. Dederen teaches multiple emulsions with aqueous and non aqueous outer phases and Bavouzet teaches that emulsions with similar properties including aqueous outer phases can contain detergent or care formulations.

#### **RESPONSE TO REMARKS**

Applicants argue that the polysaccharide of the present invention is at the interface of the hydrophobic phase and the inner aqueous dispersed phase and that Dederen teach wherein the polysaccharide is in the outer aqueous phase. Applicants argue that based on paragraph 075 of Dederen, the polysaccharide of Dederen is dispersed in the outer aqueous phase and not in the interface of the two phases.

In response the Examiner respectfully submits that the claims are directed towards a water in oil in water emulsion wherein the outer phase is aqueous containing an inner emulsion with one dispersant and/or stabilizer (polysaccharide). The inner emulsion comprises a hydrophobic (oil) phase and an aqueous dispersed phase, wherein the stabilizer is at the interface of the two phases. Dederen teach in paragraph 0075:

Other forms of more complex system include multiple emulsions in which the dispersed phase of an emulsion has within its droplets a dispersion of droplets of another liquid. There are thus two emulsions a primary or outer emulsion and a secondary or inner emulsion and the phases can be described as primary or outer and secondary or inner external and internal phases. There are thus two internal phases which are commonly referred to as the outer or primary internal phase and the inner or secondary internal phase and two external phases commonly referred to as the outer or primary external phase and the inner or secondary external phase. There are two basic types of multiple emulsion water in oil in water and oil in water in oil. Both types of multiple emulsion can be made using the emulsification stabilisation system of this invention. The invention thus further includes a water in oil in water multiple emulsion in which the primary oil in water emulsion is an emulsion of the invention and an oil in water in oil in which the secondary or inner emulsion is an emulsion of the invention. The secondary internal phase of multiple emulsions can be used to deliver materials which are sensitive to environmental conditions or to materials in the primary external phase.

Therefore, Dederen teach multiple embodiments, one of which is a water in oil in water emulsion which uses the stabilization system of the invention. Dederen et al. teach wherein polysaccharides are dispersed within the water phase and act as stabilizers, see paragraph 0001,

0012 0009. The systems can also contain inverse emulsions wherein the water in oil emulsion is inverted to form an oil in water emulsion as pointed out by Applicants, see also paragraph 0078. However, the disclosure of Dederen encompasses many embodiments and teach that oil in water emulsions are less effective than water in oil because water in oil emulsions have the oil in the external phase, see paragraph 0245. Applicants point out that Dederen et al. teach primary oil in water emulsions are the emulsions of the invention. However, as shown in paragraph 075 and 0267-0268 and 0245, the primary emulsion can also contain water in oil wherein the multiple emulsions is a water in oil in water emulsion with the polysaccharide dispersed within the aqueous phase. The Examiner further submits that as polysaccharides are hydrophilic in nature, they will naturally form an interphase within multiple emulsions as they are dispersed in water within primary water in oil emulsions, and are more hydrophilic therefore drawn to the aqueous phase. Thus, as Dederen et al. teach multiple emulsion embodiments wherein the polysaccharide is dispersed within the aqueous phase, it is unclear to the Examiner how Dederen et al. teach away from the specified embodiment of Applicants invention.

## **CONCLUSION**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE MONTH shortened statutory period, then the shortened statutory period



will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

*Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Al-Awadi whose telephone number is (571) 270-7678. The examiner can normally be reached on 9:30 am - 6:00 pm; M-F (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bonnie Eyler can be reached on (571) 272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SARAH AL-AWADI/  
Examiner, Art Unit 1619

/Shanon A. Foley/  
Primary Examiner, Art Unit 1619